



ABYEK CEMENT COMPANY

The largest Cement producer in Iran

www.abyekcement.com

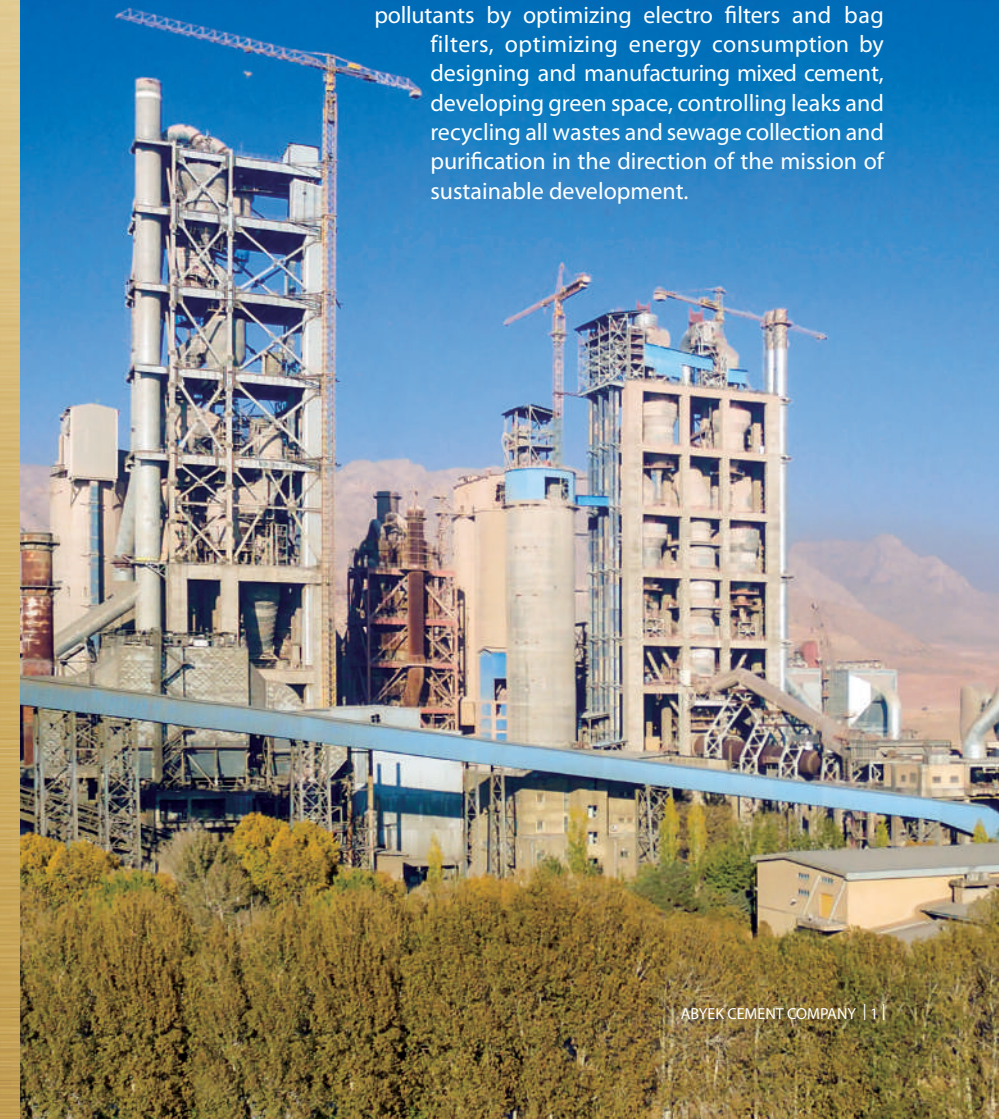
Green production, Superior Product and Healthy environment



Abyek Cement at a glance

Abyek cement company with half a century of experience as the largest cement producers unit in Iran is one of the subsidiary units of Fars and Khuzestan Cement Holding, which was founded in 1969 in Nazarabad city of Alborz province, The first unit was put into operation in 1973 with a capacity of 3,500 tons of clinker per day and the second unit with a daily capacity of 4,000 tons of clinker per day in 1979. By implementing capacity increase and development plans, In the second half of 2009, the first unit with a capacity of 8500 tons per day was optimized and in the spring of 2014, with the operation of the third unit with a capacity of 8000 tons of clinker per day and the production capacity of about 5 million tons of clinker per year, Abyek cement company became the largest cement production unit in the country and one of the largest cement factories in the Middle East. Abyek cement company has specialized, committed and efficient employees and according to its researches and training capabilities with the establishment the new management systems And quality control based on ISO 9001: 2015, ISO 14001: 2015, ISO 50001: 2011, ISO 10001 / 10002/10003/10004, ISO 17025, OHSAS 18001: 2007, CE_CEM I 42.5 N and EFQM and INQA models, has taken important steps to protect the environment, including reducing air

pollutants by optimizing electro filters and bag filters, optimizing energy consumption by designing and manufacturing mixed cement, developing green space, controlling leaks and recycling all wastes and sewage collection and purification in the direction of the mission of sustainable development.





Unique features of Abyek Cement Company

- The only cement company with the capacity to produce more than 17,000 tons of types of cement per day by loading 14 lines simultaneously.
- The only cement company with an R&D statue in the country for three consecutive years.
- Design and development of quality control system and automation (QCX) by using the Robolab for the first time in Iran
- The first composite and limy portland cement producer in Iran
- Publishing over 25 titles of books and magazines on various topics in the cement industry
- The first factory to have ISO 9001 certificate in the Iran cement industry
- Using an alternative fuel for the first time in Iran
- Implementing the largest capacity development project in Iran (from 3500 MT to 8500 MT per day)
- Capability to loading the product in different ways including bulk, bag package, railing, jumbo bag, Auto pack, and palletizing system.
- Having the University of Science and application near the factory
- Having close cooperation with the only cement research **Centre** which is located beside the plant
- Having sidelong industries such as bag packet producer (manufacturer of varieties of the paper packet), concrete industries, and Alborz manufacturing and installation workshop (manufacturer of kinds of industrial parts and machines, with a long history in the cement and powerhouse industry).

Attributes

- Receiving a national certificate of consumers rights regard for two consecutive years
- Receiving the Golden badge of Iran's national endurance on producing high-quality cement for three consecutive years
- Receiving the statue of 100 top and valuable brands
- Receiving letter of Iran national quality award
- Obtain a certificate of EFQM - For special Pozzolan cement and type 2 cement
- Obtaining a certificate of laboratory quality management system based on ISO 17025 standard
- Receiving statues and letter of appreciation of Alborz Province Industrial Sample Unit
- Receiving statues and letter of appreciation for the standard sample unit of Alborz and Qazvin provinces
- Receiving the international standard Best & Credible Cement Awards, the most reputable and the best cement producer from Germany
- Receiving the Golden badge of the top-ranked cement supplier for Iranians great construction plans
- Receiving a national badge for a worthy position in the global cement market
- Receiving the national badge of quality development and top management in Employment
- Receiving a national badge of observing to high-quality cement production standards
- Receiving a national badge of Jihadi Management in Production and Entrepreneurship
- Establishment of employee participatory management system
- Establishment of the quality management system and receiving ISO 9001 certificate as the first company in the cement industry in 1999
- Establishment of the environmental management system and receiving ISO 14001 certificate in 2001
- Establishment of safety and occupational health management system and receiving OHSAS 18001 certificate in 2003
- Integration of management systems and receiving IMS certificate in 2003
- Establishment of customer satisfaction measurement system since 2002
- Establishment of employee satisfaction measurement system since 2003
- Establishment of society satisfaction measurement system since 2004



Portland cement type 2

This type of cement is used in cases where it is necessary to observe the average hydration temperature for them and the attack of sulfates on them is moderate. Currently, this type of cement is continuously produced by this company due to market needs.

Portland cement type 1

It is used in temperate and dry climates and in ordinary buildings, flooring, Armeh concrete structures and foundations of buildings that cannot be attacked by sulfates.

Special Pozzolan Portland Cement

(Iran's top R&D product)

This type of product has been designed and produced for use in bulky concreting (dam, foundation, bridge, etc.) and areas where there is a possibility of silicate-alkaline reactions. There is a history of consuming Portland pozzolanic cement of Abyek in dams such as Khodaafarin, Shahriyar, Glabar, Talwar, Namrud, Siahbisheh, Kinah Veros, Jahveh, Azad Kurdistan, Aghchai and Qaleh Giz.

High blained Portland cement

(special Portland)

The high softness of this product makes the cement harden in a shorter time and increases its initial resistance. Application of this cement in addition to the construction of ordinary concrete, in prefabricated concrete parts, splashing concrete or shotcrete, curtains grouting, and some special construction products are recommended.

Types and properties of Abyek cement products



Composite Portland Cement

(Iran's top R&D product)

By designing and producing this type of cement by Abyek Cement for the first time in the country, improving the initial and final strengths of composite cement, usability in areas with different temperature conditions, reducing permeability, improving durability and reducing the heat of hydration have been achieved.

Pozzolan Portland Cement

The presence of pozzolan in this type of cement reduces the heat of hydration and increases the durability of cement in corrosive environments, especially sulfates and sometimes chlorine. Because aqueous pozzolanic cement is produced using clinker with C_3A less than 8%, so increasing the durability of cement and concrete and reducing the heat of cement hydration is significant.

Portland cement type 5

(anti-sulphated cement)

This product has good durability against severe sulfate attack. Therefore, in the foundation, the base of bridges, marine structures (piers), and all kinds of concrete structures that may have contact with soil or groundwater containing large amounts of sulfate is used. Also, the heat of hydration in this type of cement is low, so it works better in hot weather and relatively bulky concreting.

Clinker

Clinker is a processed product that, after going through the cooking stage in the kiln, is transferred to cement mills in the form of grains with a diameter of 3 to 25 mm for cement production and includes up to 97% of it according to the type of cement produced and the chemical properties of cement are related to it. The company's products are distributed in bulk or packaged in 50 kg bags, jumbo bags, and pallets in domestic and export markets.

Export strategic benefits

Because of locating on the main route of the railway and road transportation system of Iran, Abyek cement co. is trying to expand its presence at the export market.

- High production capacity, superior product quality, variety of packaging and access to export bases through rail and road
- Access to Asian and African markets through southern ports (Bandar Abbas and Bandar Imam Khomeini)
- Access to the markets of the Caspian Sea realm through the northern ports of Iran (Anzali port, Astara port and Amirabad port)
- Direct access to the rail transportation system according to the connection of the factory to the country's rail network

Export market

African countries like Kenya
East Asia including Bangladesh
Caspian countries like Russia
Iraq

Export products

Kraft export cement 1-425
Type 2 cement (42.5N)
Cement M500
Export Clinker



Tehran concrete company

Tehran Concrete factory

Tehran concrete factory is one of the subsidiary units of abyek cement company that producing concrete with 2 production lines. This company is one of the well-known brands for its high-quality concrete with a long history in this industry. Exploiting from professional experts with modern equipment and machinery provides the capability of producing up to 600 cubic meters of standard concrete.

Tehran concrete properties

- Production and distribution of ready concrete up to C40 resistance class
- Production and distribution of concrete products
- More than 45 years of experience in the concrete industry
- Equipped with quality control laboratory





Bag packet manufactory and packaging Industries

Products

- Double-layer cement bag
- Three layers of cement bag
- Petrochemical Industry's bag in all sizes
- Glue industrial packaging in all sizes
- Cereal industrial bags

All products of this company are delivered to consumers in different sizes and use under standard number 4543 and under the supervision of the Iranian institute of standards and industrial research, which is one of the most difficult and sensitive standards in the world.

The bag packet manufactory, as the first paper packet manufacturing company of Iran, and one of the subsidiary units of Abyek cement company, founded in 1972. Production line types of machinery which were manufactured by Germany, are called WindMoller. These machines use sack craft, white and brown papers which are made by Europe countries like Spain and Austria so on, in different grammage specifications, According to customers requirements, certified with international standards, including ISO 1947, ISO 1924, ISO 5636, ISO 536, ISO 535, and Iranian national standard no. 4541.



Alborz manufacturing and installation factory

Manufacturing and installation factory facilities

- Management, engineering, and executive expert teams in the field of design, planning and project control, assurance and quality control, supplies and support, and manufacturing of industrial equipment and smithereens.
- 12000 square meters of industrial Hall equipped with heavy overhead cranes
- 5000 square meters of office, engineering, warehouse, and support buildings
- 10000 square meters of open factory space
- Complete series of factory equipment for making heavy forging machines, welding and machining

Manufacturing and installation factory with location next to Abyek cement company and history of expertise in the field of manufacturing and installation of types of machinery of various industries, especially the cement and power plant industry is one of the strengths of Abyek Cement in providing services to factory production lines and other industries and factories.

At present, this factory, with its specialized and experienced human resources, is working on the unique facilities of designing and manufacturing heavy industrial types of machinery in the fields of cement, power plant, oil and gas industries.

The satisfaction of employers, employees, and contractors, and also obtaining ISO10006, ISO / TS29001, and ISO9001 certificates is a clear proof of the quality level of services and activities of this factory.



Environmental performance of Abyek Cement Company

Abyek Cement Company, with a strong belief in protecting the environment, has made continuous doubled efforts to maintain and improve environmental conditions by continuously producing, investing, and spending a lot of money.

Significant activities to improve the environmental index:

- Spending an average of 50 billion rials annually to maintain and improve environmental conditions
- Equipping the factory with 15 dust collectors with new technology in the form of electrostatic filters and 125 devices in the form of bag filters in production lines to remove dust from chimney outlets.
- Exit of all production processes to the environment in the standard range based on the monthly measurements of the trusted laboratory and the monitoring department of the environmental protection Agency.
- Implementation of the environmental self-declaration monitoring plan in accordance with the current laws of the environmental protection agency.
- Equipping all outputs, including: chimneys and sewages outputs from the wastewater refinery to online monitoring systems.
- Continuous utilization of the central sewage refinery department of the factory site

- Holder of the highest per capita green space among cement companies with more than 217 hectares with an annual maintenance cost of 10 billion rials
 - Implementing drop irrigation system on 76 hectares of the green areas
 - Water consumption Management by installing a smart meters on the outputs of water Wells
 - Implementing a system to collect and re-use the production lines water to reduce in the amount of groundwater draw off
 - Implementing energy management and significantly reducing energy consumption (fossil and electricity)
 - Study and codification the environmental plan of the factory with emphasis on green management
 - Study and compilation of comprehensive plan for environmental management of factory mines
- Implementation of study projects to improve the environmental indicators of the factory for the company's sustainable development, including:**
- Study and codification the environmental plan of the factory with emphasis on green management.
 - Study and compilation of comprehensive plan for environmental management of factory mines.

- Implementation of a comprehensive environmental management plans (EMP and EMS)
- Implementation of waste management program and separation from the source at the factory level.
- Participation and investment in local and national environmental exhibitions and seminars
- Purchasing and installation of web office automation to reduce the paper, printer cartridges and etc. consumption at the company.

To improve environmental conditions, the following projects were also implemented:

- Construction and operation of sewage refinery and connection of residential houses of employees with active sludge technology and subsurface aeration, as well as the implementation of sewerage collection network and connection of residential houses to the network with an investment of more than 25 billion rials.

- Construction of green space wall on the south side of the mine and improvement of the factory's mining landscape from the Tehran-Qazvin highway
- Construction and installing new bag filters in the cement mill department to remove local dust
- Construction and installation of clinker transmission strip from mine to factory to replace transmission by tractors and significantly reduce dust emission and fossil energy consumption.
- Installation and commissioning of online monitoring system for gas output parameters from chimneys



**Work safely, Produce with high quality
and Deliver healthy**

Abyek Cement Company **products** qualitative characteristics

Cement type	Type 2		Type 1		Special pozzolan		Portland pozzolan		Portland composite		Clinker	
Chemical analysis	Standard 389	Analysis range	Standard 3892	Analysis range	Standard 3432	Analysis range	Standard 34325	Analysis range	Standard 11571-1	Analysis range	Standard	Analysis range
Silicon oxide %	Min. 20	20.3-21.6	-	20.5-21.5	-	26-28	-	23-24.8	-	22.5-24	-	22-21
Aluminum oxide %	Max. 6	4.4-5.3	-	4.1-4.9	-	6.2-7.1	-	5.3-6.1	-	4.2-5	-	4-5
Iron oxide %	Max. 6	3.4-4.2	-	3.1-3.9	-	3.3-3.8	-	3.4-4	-	3.1-3.5	-	2.3-4
Calcium oxide %	-	61.1-64	-	60.1-62.2	-	52.6-55.3	-	56.8-59.3	-	56-59	-	64-65.5
Magnesium oxide %	Max. 5	2.8-3.4	Max. 5	2.6-3.1	Max. 6	2.5-3	Max. 6	2.6-3.5	Max. 5	2.6-3.5	Max. 5	2.5-3.5
Sulfur trioxide %	Max. 3	1.5-2.5	Max. 3	1.1-2.1	Max. 4	2.2-3	Max. 4	1.9-2.2	Max. 3/5	1.9-2.2	Max. 3	0.4
Sodium oxide %	-	0.3-0.5	-	0.2-0.4	-	0.3-0.7	-	0.3-0.5	-	0.4-0.5	-	0.3-0.5
Potassium oxide %	-	0.6-1.02	-	0.6-1.02	-	0.8-0.9	-	0.7-0.8	-	0.8-0.9	-	0.6-1.02
Chloride %	-	-	-	-	Max. 0.1	0.01-0.02	Max. 0.1	0.02-0.03	Max. 0.1	0.01-0.03	-	-
LOI %	Max. 3	1.1-2.2	Max. 3	1.1-2.7	Max. 5	1.4-1.7	Max. 5	1.1-1.4	Max. 9	4.5-5.5	Max. 3	0.4
The insoluble remaining %	Max. 0.75	0.3-0.4	Max. 0.75	0.3-0.4	-	-	-	-	-	-	0.75	0.4
Three calcium Aluminates%	Max. 8	5.3-7.5	-	-	-	-	-	-	-	-	8	6-7.5
Physical tests	Standard 389	Analysis range	Standard 3892	Analysis range	Standard 3432	Analysis range	Standard 34325	Analysis range	Standard 11571-1	Analysis range	Standard	Analysis range
Special surface, Square centimeter per gram (Blain)	Min. 2800	2900-3200	Min. 2800	2900-3200	Min. 3200	3400-3700	Min. 3200	3100-3300	Min. 2800	3200-3500	-	-
Expansion percentage	Max. 0/8	0.1-0.3	Max. 0/8	0.1-0.3	Max. 0/5	0.1-0.3	Max. 5/0	0.1-0.3	Max. 0/8	0.1-0.3	-	-
Initial setting time (minute)	Min. 45	100-200	Min. 45	100-200	Min. 60	160-180	Min. 60	140-190	Min. 75	150-190	-	-
Final setting time (minute)	Max. 360	170-300	Max. 360	170-300	Max. 420	230-290	Max. 420	200-290	-	240-280	-	-
2 days Compression strength (KG per square centimeter)	-	-	Min. 100	120-140	-	-	-	-	-	-	-	-
3 days Compression strength (KG per square centimeter)	Min. 100	170-220	-	-	-	170-200	Min. 100	170-200	-	180-210	-	-
7 days Compression strength (KG per square centimeter)	Min. 175	300-400	-	-	Min. 150	250-350	Min. 175	280-380	Min. 163	290-350	-	-
21 days Compression strength (KG per square centimeter)	Min. 315	408-510	Min. 425	540-510	Min. 275	350-400	Min. 300	390-410	Min. 331	380-410	-	-
Litter weight	-	-	-	-	-	-	-	-	-	-	-	1150-1350
Free lime	-	-	-	-	-	-	-	-	-	-	-	Max. 2%

Human resources and training

Abyek Cement Company, with half a century of experience, has a specialized, experienced, and hardworking person who always pays special attention to training and updating the information of colleagues in their program. In this regard, an

average of 20 person-hour is trained annually for each colleague. Also, the Abyek cement factory has become a popular and suitable place for training and novitiate for students of different fields. This huge complex has the potential to provide engineering and consulting services.

Ethical code of Abyek cement company

The Abyek cement ethical code is a sacred covenant and a universal commitment that all personnel respect and are committed to heeding to.

- We believe in achieving the satisfaction of employees, customers, and the community as much as possible
- Science and knowledge acquisitions are at the forefront of our activities
- We attempt to develop the participation culture

in our organization

- Merits, competence, and wisdom are the basis of all decisions we make and preparing equal opportunities for staffs are integral to our organizational justice and human responsibility
- Respect for human beings, observance of Laws, honesty with stakeholders, cleanliness, and organization are at the forefront of our work

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